REMARKS

Claims 45-70, 94-123 and 136-142 are pending in the above-captioned patent application after this amendment. Claims 71-93 and 124-135 have been withdrawn from consideration upon a Restriction Requirement. Claims 45-70 and 94-123 have been rejected.

The Applicant respectfully disagrees with the rejection of claims 45-70 and 94-123. Further, the Applicant respectfully disagrees with the withdrawal from consideration of claims 71-93 and 124-135. However, the Applicant has canceled claims 71-93 and 124-135 without prejudice, and amended claims 45, 50, 56, 60, 66, 94 and 110 and added claims 136-141 for the purpose of expediting the patent application process in a manner consistent with the goals of the Patent Office pursuant to 65 Fed. Reg. 54603 (September 8, 2000), and/or to clarify what the Applicant regards as the present invention.

Support for the amendments to claims 45, 50, 56, 60, 66, 94 and 110 and new claims 136-142 can be found throughout the originally filed specification. In particular, support for the amendments to claims 45, 50, 56, 60, 66, 94 and 110 and new claims 136-142 can be found in the original claims and in the specification at page 8, lines 26-33, at page 10, line 28 through page 11, line 29, and in Figures 1 and 2.

No new matter is believed to have been added by this amendment.

Reconsideration of the pending application is respectfully requested in view of the above-recited amendments and the arguments set forth below.

INTERVIEW SUMMARY

On May 21, 2004, the undersigned attorney for the Applicant conducted a telephonic interview with the Examiner, Khaled Brown. During the interview, the prior art and the present invention were discussed. The claims were briefly discussed. The Examiner provided that additional consideration was required prior to deciding upon the patentability of the claims. The Applicant wishes to thank the Examiner for his time and assistance.

Rejections Under 35 U.S.C. § 102(e)

Claims 45, 47-70 and 94-123 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,603,130 issued to Bisschops et al. (hereinafter "Bisschops et al."). Claims 45, 50, 56, 60, 66, 94 and 110 have been amended with the present amendment. The Applicant respectfully submits that amended claims 45, 50, 56, 60, 66, 94 and 110 are patentable over the cited reference.

More particularly, with respect to claims 45, 47, 50-53, 56, 57, 60-63, 66-68, 94, 95-99, 101-107 and 110-120, the Examiner provides that Bisschops et al. discloses "an exposure apparatus comprising (Bisschops et al Fig 4): a stage that retains a device, the stage including a device table (Bisschops et al 14), a stage mover assembly (Bisschops et al 16), and a chamber assembly that encircles the device (V), the chamber assembly including a fixed section (Bisschops et al 11), a moving section (Bisschops et al 12), and seal assembly (Bisschops et al 21), and a table seal (Bisschops et al, 13 maintains vacuum pressure in V)."

The Applicant provides that Bisschops et al. is directed to a gas bearing for use with a vacuum chamber that uses a sliding seal concept. The vacuum chamber V is bounded by walls 11 which define an aperture 11a in the floor of the vacuum chamber V that is sealed by a sliding seal formed by a sliding seal plate 12. A wafer support pillar 13 is mounted on the sliding seal plate 12. The wafer support pillar 13 supports the fine stage, or short stroke wafer support chuck 14, which in turn carries the wafer W. The long stroke motion of the wafer W is accomplished by moving the whole sliding seal plate 12, which is driven to move along the X- and Y- axes and about the Z-axis via beams 15 and drivers 16 provided in motor compartment M. (Bisschops et al. column 7, lines 23-61, and in Figure 4).

The major load on the sliding seal plate 12 will be the pressure differential between the vacuum chamber V and the motor compartment M, so that the vacuum (or gas) bearing 21 will support and guide the sliding seal plate 12. Supports or bearings 19 mounted on base plate 17 support the sliding seal plate 12 when the vacuum chamber V is not evacuated, e.g. for maintenance. (Bisschops et al. column 3, line 61 through column 4, line 5, column 7, line 62 through column 8, line 9, and in Figure 4).

However, Bisschops et al. does not disclose a table seal that seals the moving

section to the device table, allows for motion to the d vice table relative to the moving section, and isolates contaminants from a table mover assembly and inhibits the contaminants from the table mover assembly from circulating through the device chamber. In Bisschops et al., the wafer support pillar 13 extends between the sliding seal plate 12 and the fine stage 14. The wafer support pillar 13 supports the fine stage, or short stroke wafer support chuck 14 within the vacuum chamber V. Thus, any contaminants generated by the fine stage, or short stroke wafer support chuck 14 will flow into the vacuum chamber V. Further, Bisschops et al. does not disclose a stage base positioned outside the chamber that supports and guides the stage, with the stage, in turn, supporting at least a portion of the moving section. In Bisschops et al., the sliding seal plate 12 is supported and guided by the chamber walls 11 in conjunction with the pressure differential created through the vacuum (or gas) bearings 21. The chamber walls 11 are fixedly mounted on the base plate 17.

In contrast to Bisschops et al., amended claim 45 recites "(a)n exposure apparatus ... comprising: a stage including a device table that retains the device, a stage frame, and a table mover assembly that moves the device table relative to the stage frame; a stage mover assembly for moving the stage; and a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including a fixed section, a moving section that moves relative to the fixed section and substantially concurrently with the stage, a seal assembly that seals an intersection between the fixed section and the moving section during movement of the moving section, and a table seal that seals the moving section to the device table, the table seal isolating contaminants from the table mover assembly and inhibiting the contaminants from the table mover assembly from circulating through the device chamber."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 45 is unsupported by the art. Because claims 47-49 depend either directly or indirectly from amended claim 45, a rejection of these claims is also not supported by the art.

Further, in contrast to Bisschops et al., amended claim 50 recites "(a)n exposure apparatus ... comprising: a stage that retains the device; a stage base that guides and supports the stage; and a chamber assembly that encircles the device and provides a

device chamber around the device, the chamber assembly including (i) a fixed section that includes a top wall and four side walls, (ii) a moving section that moves relative to the fixed section, the moving section including a bottom wall, the moving section moving with the stage, and (iii) a seal assembly that seals an intersection between the fixed section and the moving section during movement of the moving section."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 50 is unsupported by the art. Because claims 51-55 depend either directly or indirectly from amended claim 50, a rejection of these claims is also not supported by the art.

Additionally, in contrast to Bisschops et al., amended claim 56 recites "(a)n exposure apparatus ... comprising: a stage that retains the device; a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including a fixed section, a moving section that moves relative to the fixed section, at least a portion of the moving section being supported by the stage, and a seal assembly that seals an intersection between the fixed section and the moving section during movement of the moving section, the seal assembly including a fluid bearing; and a stage base that guides and supports the stage, the stage base being positioned outside the chamber assembly."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 56 is unsupported by the art. Because claims 57-59 depend either directly or indirectly from amended claim 56, a rejection of these claims is also not supported by the art.

Further, in contrast to Bisschops et al., amended claim 60 recites "(a)n exposure apparatus ... comprising: a stage that retains the device; a stage base that guides and supports the stage; a stage mover assembly that moves the stage; and a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including (i) a fixed section that includes a top wall and four side walls, (ii) a moving section that moves substantially concurrently with the stage, the moving section including a bottom wall, the moving section moving with the stage relative to the stage base, and (iii) a seal assembly that seals an intersection between the fixed section and the moving section during movement of the moving section."

Thes features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 60 is unsupported by the art. Because claims 61-65 depend either directly or indirectly from amended claim 60, a rejection of these claims is also not supported by the art.

Additionally, in contrast to Bisschops et al., amended claim 66 recites "(a)n exposure apparatus ... comprising: a stage including a device table that retains the device, a stage frame, and a table mover assembly that moves the device table relative to the stage frame; a stage mover assembly that moves the stage; and a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including a moving section that moves substantially concurrently with the stage and a table seal that seals the moving section to the device table and allows for motion to the device table relative to the moving section, the table seal isolating contaminants from the table mover assembly and inhibiting the contaminants from the table mover assembly from circulating through the device chamber."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 66 is unsupported by the art. Because claims 67-70 depend either directly or indirectly from amended claim 66, a rejection of these claims is also not supported by the art.

Still further, in contrast to Bisschops et al., amended claim 94 recites "(a)n exposure apparatus ... comprising: a stage that retains the device; a stage base that guides and supports the stage; and a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including a fixed section and a moving section that moves relative to the fixed section, the moving section including at least one wall that defines at least a portion of the device chamber, wherein the stage supports at least a portion of the moving section."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 94 is unsupported by the art. Because claims 95-109 depend either directly or indirectly from amended claim 94, a rejection of these claims is also not supported by the art.

Yet further, in contrast to Bisschops et al., amended claim 110 recites "(a)n exposure apparatus ... comprising: a stage including a devic table that retains the device,

a stage frame, and a table mover assembly that moves the device table relative to the stage frame; and a chamber assembly that encircles the device and provides a device chamber around the device, the chamber assembly including a moving section and a table seal that seals the moving section to the device table, the table seal isolating contaminants from the table mover assembly and inhibiting the contaminants from the table mover assembly from circulating through the device chamber."

These features are not taught or disclosed by Bisschops et al. Accordingly, a rejection under 35 U.S.C. § 102(e) of claim 110 is unsupported by the art. Because claims 111-123 depend either directly or indirectly from amended claim 110, a rejection of these claims is also not supported by the art.

Rejection Under 35 U.S.C. § 103(a)

Claim 46 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Bisschops et al. in view of U.S. Patent No. 6,432,479 issued to Chang et al. (hereinafter "Chang et al."). As noted above, the rejection of claim 45 is not supported by the art. Because claim 46 depends directly from amended claim 45, the rejection of claim 46 is not supported by the art.

New Claims

New claims 136-142 have been added by this amendment. These claims are of a slightly different scope than the previously pending claims. However, these claims are considered patentable in view of the cited references.

CONCLUSION

In conclusion, the Applicant respectfully asserts that claims 45-70, 94-123 and 136-142 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 858-456-1951 for any reason that would advance the instant application to issue.

Dated this the 28th day of June, 2004.

Respectfully submitted,

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